REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons which follow.

I. Status of Claims

Claims 3-14 are pending in the present application and claims 6-13 are withdrawn from consideration as drawn to non-elected subject matter. Claims 1 and 2 have been cancelled without prejudice or disclaimer. New claim 14 essentially incorporate subject matter deleted by cancellation of claims 1 and 2 while addressing various issues raised in the Office Action, as discussed below. Support of claim 14 can be found throughout the specification, for example, from page 13, line 7 to page 15, line 16. Claims 3 and 5 have been amended to be properly dependent from new claim 14 and also to attend to the examiner's concerns as discussed below.

II. Rejection under 35 U.S.C. §112, second paragraph

The examiner has rejected claims 1-5 as indefinite for various reasons. Applicant respectfully traverses this rejection.

At the outset, applicant notes that claims 1 and 2 have been deleted and new claim 14 has been added to attend to various issues, which renders moot most of the indefiniteness rejections. In this regard, claims 14 and 3 remain to recite "artificial amino acid residues," which is objected to by the examiner for an allegedly unclear meaning of this phrase. Contrary to the examiner's contention, the specification clearly defines that "artificial amino acid sequences...refer to those amino acid sequences that can not be found in nature..." See page 12, lines 29-31 of the specification. However, in an effort to address the examiner's concern and to define the invention more clearly, applicant has revised claims 3 and 14 to read "artificial amino acids that do not occur in nature."

The examiner further has objected to the recitation "derived' in claims 3 and 5. Without acquiescing to the propriety of the examiner's rejection, applicant has obviated this rejection by revising claims 3 and 5 not to recite the objected term.

In view of the foregoing amendment, combined with applicant's argument, applicant respectfully submits that all of the indefiniteness rejections become moot, and therefore withdrawal of these rejections is respectfully requested.

III. Rejection under 35 U.S.C. §101

The examiner has rejected claims 1-5 as directed to non-statutory subject matter. Applicant respectfully traverses this rejection.

The examiner asserts that the claims lack physical steps and are drawn only to mental steps which are not considered statutory subject matter; and that the dependent claims do not correct this deficiency by providing a physical step.

Applicant wishes to draw the examiner's attention to a new claim 14 which is directed to statutory subject matter by reciting actual physical steps, for example, obtaining a primary design antibody by CDR-grafting, constructing an expression vector, culturing cells or recovering the humanized antibody. Claims 3-5 have been amended to properly depend from claim 14. Thus, because new claim 14, together with cancellation of claims 1 and 2, renders this rejection moot, applicant respectfully requests a withdrawal of this rejection.

IV. Rejection under 35 U.S.C. §102

The examiner has rejected claims 1-3 and 5 as anticipated by Sato et al. under 102(a), and anticipated by Co et al. or Roguska et al. under 102(b). Applicant respectfully traverses these rejections.

A humanized antibody is conventionally constructed by replacing a CDR in a human antibody with a corresponding CDR of, for example, a mouse monoclonal antibody having a desired antigen specificity, usually by using CDR-grafting. By this method, a humanized antibody which comprises a FR naturally occurring in human antibodies and the corresponding CDR, for example, a mouse CDR, is obtained.

However, the humanized antibody thus obtained is, in many cases, not effective in comparison with the corresponding mouse monoclonal antibody. Therefore, replacement of one or more amino acids in the FR of the humanized antibody with other amino acids has been tried to provide humanized antibody that has an antigen binding affinity similar to the original mouse monoclonal antibody. As a result, the effective humanized antibody thus obtained comprises amino acid sequences in the FR, which do not occur in nature.

Therefore, conventional humanized antibodies cannot simultaneously satisfy the requirements that (1) a humanized antibody is as effective as a corresponding mouse monoclonal antibody, and (2) a humanized antibody comprising a FR that is completely the same as that naturally occurring in a human antibody.

According to the claimed method of the present invention, a humanized antibody that is effective as the corresponding mouse monoclonal antibody, has the same FR as that naturally occurring in a human antibody.

However, disclosure of prior art references cited by the examiner are limited to construction of conventional humanized antibodies corresponding to that in step (1) of the claimed invention. None of the cited references teaches or suggests steps (2) to (5), which clearly distinguishes the claimed invention from the prior art. Therefore, the cited references do not teach each or every element of the claimed invention.

In light of foregoing, applicant respectfully submits that none of the cited references qualifies as an anticipation of the presently claimed invention, and thus withdrawal of the subject rejection is requested.

V. Rejection under 35 U.S.C. §103(a)

The examiner also has rejected claims 1-5 as obvious over Sato et al., Co et al., and Roguska et al., as applied to claims 1-3 and 5, and further in view of Queen et al. Applicant respectfully traverses this rejection.

As discussed above, none of the primary references, Sato et al., Co et al. or Roguska, qualifies as anticipatory prior art. However, Queen does not cure the deficiency of the primary references because it also fails to describe steps (2) to (5) of

the claimed invention. Therefore, there is no prima facie case of obviousness. Accordingly, applicant respectfully requests that the obviousness rejection be withdrawn.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

Date March 18, 2002

By Steven Rutt, Reg. No. 40,153
for Harold C. Wegner
Attorney for Applicant
Registration No. 25,258

FOLEY & LARDNER
Washington Harbour
3000 K Street, N.W., Suite 500
Washington, D.C. 20007-5143
Telephone: (202) 672-5571
Facsimile: (202) 672-5399

MARKED UP VERSION

3. (Amended) The method [of preparation] according to claim [1] 14, wherein the primary design antibody comprises CDRs [derived from] of an antibody of a first animal species, and FRs [derived from] of an antibody of a second animal species and having artificial amino acid residues that do not occur in nature.

5. (Amended) The method [of preparation] according to claim [1] 14, wherein the artificial amino acid residues are [derived from] ones occurring in the [FR] FRs of non-human antibody.